

IP MOBILENET DATA RADIO TIMELINES

2/17/2004

Specs	Current Design	Utah Specific 700 MHz	High speed 700 MHz (100 Kbps)
Frequency	VHF/UHF/800 MHz	700 / 800 MHz (dual band radio)	700 / 800 MHz (maybe 450 MHz pending FCC approval)
Bandwidth	25 KHz	25 KHz (50 KHz in subsequent design iteration)	25 KHz, (50 & 150 KHz in subsequent design iteration)
Data Rate	19.2 or 32 Kbps	32 Kbps (targeting 64 kbps in subsequent design in 25 KHz band) 128 kbps in 50 KHz channel with software upgrade	100 Kbps (targeting >200kbps in subsequent design utilizing >25 KHz bandwidth)
Product Availability	now	Aug-04	Dec-04
Modulation type	FM	FM / FSK	OFDM
FCC Approved	Yes	No - expected in August (32 Kbps, 25 KHz channel design only)	No - expected by end of 2004 (100 Kbps, 25 KHz channel only)
incorporated 802.11	no	no	TBD - no decision has been made by IPMN
Upgrades			
IPMN has agreed to upgrade existing 460 MHz customers only Offer is limited to currently deployed base stations and mobiles only		Upgrade from 32 Kbps to 64 kbps via software. Available mid 2005 (25 KHz channels) - Pricing not yet determined	Upgrade from 100 kbps to >200 kbps. Actual data rates not yet determined. Will require 50 KHz channels Timing and pricing for upgrade undetermined
IPMN will negotiate a reasonable upgrade price for new agencies that wish to deploy data immediately. Purchase 460 MHz radios / bases now and IPMN will charge a flat nominal fee for future upgrade to 700 MHz		Upgrade from 64 kbps to 128 Kbps available to operate over 50 KHz channels. Upgrade expected to be available in mid 2005	
This upgrade is a "forklift" upgrade			